

CLAIMS

1. A planetary transmission with a displaceable coupling element (15), by means of which the planetary transmission is shiftable, wherein the coupling element is displaceable by means of a shift fork (20) moved by an actuator and the actuator comprises a motor (27) and a cam driven by it via a shaft (26), and wherein the shift fork includes an element that engages a groove of the cam, characterized in that,

the cam (23; 123) includes a groove (30; 130, 130') of V-shaped cross-section with inclined side walls (36, 37), and in that the element (32; 132, 132') of the shift fork (20) is pressed into the groove (30; 130, 130') by a spring (35).

2. A planetary transmission in accordance with claim 1, characterized in that the cam (23, 123) is essentially a cylindrical cam roller with at least one groove (30; 130, 130') disposed on its surface.

3. A planetary transmission in accordance with claim 2, characterized in that the side walls (36, 37) of the groove (30; 130, 130') that is V-shaped in cross-section are inclined at angles (40, 41), which are different from one another relative to the axis (42).

4. A planetary transmission in accordance with claim 2, characterized in that two grooves are on the cam roller (123), and in that an element (130, 130') of the shift fork (20) engages in each of the two grooves (130, 130').

5. A planetary transmission in accordance with claim 2, characterized in that the shift fork (20) has a tubular base (22) that surrounds the cam

roller (23), and the cam roller (23) and the base (22) together form a linear guide of the shift fork.

6. A planetary transmission in accordance with claim 4, characterized in that the grooves (130, 130') are phase shifted about a center angle of 180° and their cooperating elements (130, 130') are positioned opposite to one another.

7. A planetary transmission in accordance with claim 4, characterized in that the element (30; 130, 130') of the shift fork (20) is received within cage (33) retaining the spring (35), which is mounted to a through hole of the tubular base (22).

8. A planetary transmission in accordance with claim 1, characterized in that the element (30; 130, 130') of the shift fork (20) is a rotatably supported ball.